

Claims

Book 1. ar

1. A power turbine comprising a drive shaft supporting at one end a turbine arranged in use to be driven by exhaust gases from an internal combustion engine and supporting at the other end a drive connection which in use is coupled to a load demand of the internal combustion engine, wherein the shaft is supported in a housing by a first floating bearing adjacent to the turbine and a second floating bearing adjacent the drive coupling, the first and second bearings each defining an inner bearing surface relative to which the shaft rotates and an outer bearing surface which rotates relative to the housing, and the first and second bearings are mechanically coupled together such that they rotate relative to the housing at the same speed.
2. Apparatus according to claim 1, wherein the first and second bearings are formed from a single tubular body through which the shaft extends.
3. Apparatus according to claim 1, wherein the first and second bearings are separate components interconnected by a tubular body through which the shaft extends.
4. Apparatus according to claim 1, wherein the tubular body defines radial apertures to provide oil drainage passage ways.
5. Apparatus according to claim 4, wherein said housing has passageways formed therein for connecting a supply of pressurized lubricant to said first and second bearings.
6. Apparatus according to claim 1, wherein the first and second bearings define axially-facing end surfaces which bear against retaining shoulders, the radial thickness of the end surfaces being less than or equal to the radial spacing between the inner and outer bearing surfaces.

7. Apparatus according to claim 6, wherein said drive shaft has a shoulder against which one of said axially-facing end surfaces is positioned, said apparatus further comprising means for forming a thrust bearing adjacent the other of said axially-facing end surfaces, whereby the axial excursions of said shaft are restrained.

8. Apparatus according to claim 7, wherein said housing has passageways formed therein for connecting a supply of pressurized lubricant to said thrust bearing means.

9. Apparatus according to claim 8, wherein said housing has passageways formed therein for connecting a supply of pressurized lubricant to said first and second bearings.

10. Apparatus according to claim 9, wherein said housing has a common passageway for connecting a supply of pressurized lubricant to said thrust bearing means and to said first and second bearings.

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